

Flight-Deck Interface for High-Precision Taxi Control, Phase I

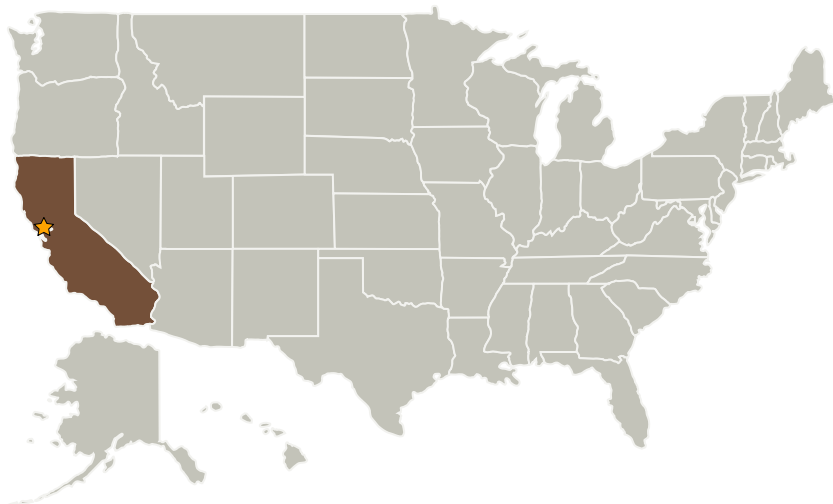
Completed Technology Project (2004 - 2004)



Project Introduction

Faced with ever-increasing projections of air traffic, NASA and the Federal Aviation Administration (FAA) have been developing advanced technologies to increase traffic-handling capacity at existing airports. Efforts to increase airport capacity approach the problem on two fronts: the first is to increase the number of runways (i.e. more usable space), and the second is to develop new technologies to achieve reduction in aircraft separation and consequently increase in landing rate per runway (i.e. higher density). Although increasing usable runways is ultimately inevitable, doing so often imposes new technical problems that compromise efficiency and safety. Modifying an existing airport layout increases surface traffic complexity with a higher level of aircraft and surface vehicle traffic, resulting in increased occurrences of runway crossing. A previous NASA-funded research addresses the air traffic control needs for ground-control operations with the development of a Ground-Operation Situation Awareness and Flow Efficiency (GO-SAFE) system. A new Surface Operation Automation Research (SOAR) project explores the concept of collaborative automation between the GO-SAFE system and a Flight-deck Automation for Reliable Ground Operation (FARGO) system. The currently proposed effort will advance the interface technology to help the flight crew achieve the precise taxi control envisioned for the FARGO system.

Primary U.S. Work Locations and Key Partners



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Organizational Responsibility

Responsible Mission Directorate:

Space Technology Mission Directorate (STMD)

Lead Center / Facility:

Ames Research Center (ARC)

Responsible Program:

Small Business Innovation Research/Small Business Tech Transfer

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Organizations Performing Work	Role	Type	Location
★ Ames Research Center(ARC)	Lead Organization	NASA Center	Moffett Field, California
Optimal Synthesis, Inc.	Supporting Organization	Industry Small Disadvantaged Business (SDB)	Los Altos, California

Primary U.S. Work Locations

California

Project Management

Program Director:

Jason L Kessler

Program Manager:

Carlos Torrez

Principal Investigator:

Victor H Cheng

Technology Areas

Primary:

- TX16 Air Traffic Management and Range Tracking Systems
 - └ TX16.3 Traffic Management Concepts